

Childhood Trauma, Quality of Life, Sleep Quality, Anxiety and Depression Levels in People with Bruxism

İbrahim YAĞCI¹ , Yasin TAŞDELEN² , Yüksel KIVRAK³ 

¹Kars Harakani State Hospital, Psychiatry Clinic, Kars, Turkey

²Aydın State Hospital, Psychiatry Clinic, Aydın, Turkey

³Department of Psychiatry, Kafkas University Medical Faculty, Kars, Turkey

ABSTRACT

Introduction: The aim was to investigate the relation between sociodemographic features, anxiety, depression, sleep quality, childhood trauma experiences, and quality of life and bruxism determining the risk factors in people with bruxism.

Methods: A total of 200 people were included in the study. Of the patients, 100 were diagnosed with bruxism and 100 were included in the control group. Sociodemographic Data Form, Hospital Anxiety Depression Scale (HAD), The Pittsburgh Sleep Quality Index (PSQI), Childhood Trauma Scale (CTS), Short Form-36 Quality of Life Scale (SF-36) were used.

Results: While there was no significant difference between the case group and the control group in terms of age, gender, marital status, and working status, there was a significant difference between educational levels. When the groups were compared a significant difference was

found with regard to HAD-A ($p<0.05$), HAD-D ($p<0.01$), PSQI ($p<0.01$) and CTS ($p<0.05$) scores. While a significant difference was found when KF-36 subscales were examined, with regard to Physical Function ($p<0.01$), Pain ($p<0.05$), Social Function ($p<0.05$) and Mental Health ($p<0.01$) scores, no significant difference was detected between the subscales of Role Strength ($p>0.05$), General Health ($p>0.05$), Vital Energy ($p>0.05$) and Emotional Role ($p>0.05$). Regression analysis shows, (PSQI), HAD-D CTS scores predicted bruxism.

Conclusion: Higher depression scale scores, bad sleep quality, traumatic childhood experiences increase the risk for bruxism. Paying attention to the mental state of people diagnosed with bruxism in the treatment process and incorporating the psychiatrists in this process may increase the success rate of the treatment.

Keywords: Bruxism, depression, anxiety, childhood trauma, sleep quality

Cite this article as: Yağcı İ, Taşdelen Y, Kıvrak Y. Childhood Trauma, Quality of Life, Sleep Quality, Anxiety and Depression Levels in People with Bruxism. Arch Neuropsychiatry 2020;57:131-135.

INTRODUCTION

Bruxism is a repetitive jaw-muscle activity that occurs with the movement of the mandible and characterized by clenching and / or grinding of the teeth (1). It is controversial whether bruxism is a disease. In addition to the authorities that consider it a disorder rather than a disease, there are also those who approach it as a behavior (2-4). The instrumental and non-instrumental approaches are recommended in the evaluation of bruxism. In the non-instrumental approach, dental, lingual, labial and buccal examinations are at the forefront with at least 1 to 2 weeks of history obtained from individuals and their relatives. Electromyography is used in the instrumental approach (5).

Its prevalence is between 14-20% in children, 22% in adults and around 3% in the age group of 60 years and over (6). It is divided into two as diurnal bruxism observed during the day and nocturnal bruxism observed at night (6). Approximately 20% of the population experience diurnal bruxism, while 8-16% of them experience nocturnal bruxism. Problems such as tooth abrasions and fractures, pain in the chewing muscles and temporomandibular joint region, mobility and headache may be seen in individuals with bruxism (7). Central and peripheral factors are included in the etiology of bruxism. While peripheral factors consist of morphological parameters, central factors consist of psychological and

biological parameters (1). Since it is not possible to determine which of these factors is more effective, its etiology is considered multifactorial.

Although there are studies reporting that the prevalence of mood disorder is higher in individuals with bruxism compared to normal individuals, studies suggesting the opposite are also available in the literature (8, 9). Besides, the condition is uncertain in terms of depression and anxiety. Again, some studies show that depression and anxiety are more common in individuals with bruxism, while other studies report that there is no difference between individuals with and without bruxism (8, 9). However, nocturnal bruxism is more frequently observed in depressed, anxious and emotionally stressed individuals (10). Therefore, many researchers acknowledge that bruxism develops as a response to anxiety and stress (7, 11). The bruxism-stress theory is based on the report of some case series suggesting that stressful daily events cause an increase in nocturnal masseter muscle activity (12). Although the number of studies on the causes of bruxism increases day by day, this clinical problem is still complicated and open to discussion.

Childhood traumas arise as a result of behaviors at high risk of causing physical or emotional damage to individuals, which are exhibited

consciously or unconsciously, or not exhibited although necessary by caregivers or other individuals (13). Traumatic experiences in childhood have physical and mental effects in adulthood (13). Depression, anxiety disorders, dissociation, personality disorders, somatization and post-traumatic stress disorder in adulthood are associated with childhood traumas (14). Somatization disorder and chronic gastrointestinal disorders have been reported to be more common in the cases with a history of abuse in a study conducted in the adult age group (15).

It is also uncertain whether bruxism affects sleep quality. In addition to studies showing that individuals with bruxism have poorer sleep quality, there are other studies showing that sleep quality is not affected by bruxism (15, 16).

Although some of the results are contradictory, depression, anxiety, childhood traumas and sleep quality have been studied in individuals with bruxism; however, no studies examining all these factors together and evaluating the predictive factors for bruxism have been found in available resources. Therefore, we planned to carry out this study in order to evaluate these factors and to determine their effects on predicting bruxism. Since the etiology and treatment of bruxism is not fully known, we think that recognizing and treating psychiatric predictors may contribute positively to clarifying the etiology and treatment process of bruxism.

METHODS

Type of the Study

This study was designed as a clinical observational case-control study. Prior to the study, approval was obtained from Kafkas University Faculty of Medicine Ethics Committee.

Place and Time of the Study

This study was carried out in Kars Oral and Dental Health Center between 01/02/2017 and 01/01/2018.

Population of the Study

In the calculation, it was found that the case and control groups should consist of at least 91 individuals each in order to ensure $\alpha=0.05$, $\beta=0.02$ and effect size of 0.6. The study was planned with a total of 220 individuals, 110 in the case group and 110 in the control group, considering those not willing to participate in the study and the possibility of incomplete forms. The case group consisted of 110 individuals who were admitted to Kars Oral and Dental Health Center on random days with the complaint of bruxism for at least 1-2 weeks and who were diagnosed with bruxism as a result of the examination performed by the dentist, while the control group consisted of 110 individuals who were admitted to the same center for routine dental examination and in whom no disease was detected. The participants were firstly explained the purpose and method of the study, and verbal and written consent was obtained from those who agreed to participate in the study. Afterwards, they were taken to the rooms where they could be alone and filled in the forms. All participants were evaluated by the same author. A total of 20 individuals were excluded from the case and control groups due to incomplete forms.

Inclusion and Exclusion Criteria of the Study

Inclusion criteria of the study

The inclusion criteria for the case group included being diagnosed with bruxism by the dentist, having the complaint of bruxism for at least 1-2 weeks, being over 18 years of age and agreeing to participate in the study after being informed. As for the control group, the criteria included not being diagnosed with any dental diseases in the examination, agreeing to participate in the study after being informed and being over 18 years of age.

Exclusion criteria of the study

The exclusion criteria for both groups included refusing to participate in the study after being informed, having mental retardation and dementia, alcohol / substance use and illiteracy.

Assessment Tools Used in the Study

The Sociodemographic Data Form, Hospital Anxiety Depression Scale (HAD), Childhood Trauma Questionnaire (CTQ), Short Form-36 Quality of Life Scale (SF-36) and Pittsburgh Sleep Quality Index (PSQI) were applied to both the case and control groups.

Sociodemographic Data Form

This form was prepared by us and consisted of questions on the participants' age, gender, marital status, occupation, educational status, history of psychiatric diseases, smoking / alcohol / substance use.

Hospital Anxiety and Depression Scale (HAD)

It assesses the severity of anxiety and depression in patients (17). It is a 14-item scale filled by patients. Depression and anxiety are tried to be assessed with the help of two subscales (18).

Pittsburgh Sleep Quality Index (PSQI)

It assesses the factors relating to sleep quality, including estimates of sleep duration and latency and of the frequency and severity of specific sleep-related problems (19). It was adapted to Turkish, and the Cronbach's alpha coefficient was reported to be 0.80 (20). The PSQI based on self-report consists of 24 questions assessed with a score ranging from 0 to 3. The total score is obtained by the sum of these components and can be between 0 and 21. A total score of less than 5 indicates high sleep quality, while a total score of more than 5 indicates impaired sleep quality.

Childhood Trauma Questionnaire (CTQ)

It was developed by Bernstein et al. (21). The Turkish validity and reliability study of the scale was conducted by Şar et al. (22), and the internal consistency and test-retest reliability of the scale were found to be high. The scale consists of 28 items, three of which measure the denial of trauma, and the participants rate each item on a 5-point Likert scale. This scale has five subscales including physical, emotional, sexual abuse and physical and emotional neglect (21).

Short Form-36 Quality of Life Scale (SF-36)

It consists of thirty-six items in a multiple-choice format and was designed to assess health-related quality of life in eight domains (22). These are as follows: physical functioning, physical role functioning, bodily pain, general health perceptions, vitality, social functioning, emotional role functioning and mental health (23). It is not possible to get a single score from the scale. Scoring is performed separately for each subscale of the quality of life. Each subscale measures its section with the scores ranging from 0 to 100. 0 point indicates "poor health" status, while 100 points indicate "good health" status. It was adapted to Turkish and shown to be valid and reliable (24).

Statistical Analysis

SPSS (Statistical Package for the Social Sciences) 20 version was used to evaluate the data. The Kolmogorov Smirnov test was used to evaluate whether the distribution was normal. Following descriptive statistical analysis (frequency, percentage distribution, mean \pm standard deviation), the independent groups t-test was used for continuous variables providing parametric conditions, the Mann Whitney-U test was used for those not providing parametric conditions, and the chi-square test was used for categorical variables in the evaluation of the difference between the two groups. Regression analysis was performed to determine the effect of independent variables on bruxism, which was the dependent variable. Logistic regression analysis was performed since bruxism, the

Table 1. Sociodemographic characteristics of the bruxism and control groups

		Bruxism Group (n =100)		Control Group (n=100)		χ^2
		n	%	n	%	p
Age, Mean \pm Sd		30.14 \pm 7.77		31.32 \pm 9.50		>0.05
Gender	Female	54	54	52	52	>0.05
	Male	46	46	48	48	
Marital Status	Married	44	44	40	40	>0.05
	Single	56	56	60	60	
Employment	Yes	54	54	54	54	>0.05
	No	46	46	46	46	
Educational Status	Elementary	8	8	8	8	<0.05
	Middle	14	14	2	2	
	High	24	24	42	42	
	University	54	54	48	48	
Psychiatric Illness History	Yes	10	10	14	14	>0.05
	No	90	90	86	86	

p<0.05; sd, standart deviation; χ^2 , chi-square

dependent variable, was a categorical variable. The “Enter” method was applied for logistic regression analysis. All independent variables were included in the model. p<0.05 was considered statistically significant.

RESULTS

The data of 200 individuals, 100 cases and 100 controls, were evaluated in the study. The age range of those in the case group varied between 19-52 years, while the age range of those in the control group varied between 20-57 years. The mean age of the case group was 30.14 \pm 7.77 years, while the mean age of the control group was 31.32 \pm 9.50 years (p>0.05) (Table 1). 54% were female and 46% were male in the case group, while 52% were female and 48% were male in the control group (p>0.05).

Considering the sociodemographic data, there is a significant difference between the case and control groups in terms of their educational attainment whereas there is no significant difference in terms of their age, sex, marital status, and employment status. When the groups were compared, a significant difference was found in terms of HAD-A (p<0.05), HAD-D (p<0.01), PSQI (p<0.01), CTQ (p<0.05) scores. Regarding KF-36 subscales, a significant difference was found in terms of Physical Function (p<0.01), Pain (p<0.05), Social Function (p<0.05), Mental Health (p<0.01) scores, whereas there is no significant difference found between Role Strength (p>0.05), General Health (p>0.05), Vital Energy (p>0.05), and Emotional Role (p>0.05) subscales (Table 2). Considering the subscales

of the Childhood Trauma Questionnaire, a significant difference was observed between Emotional Abuse (p<0.01), Physical Abuse (p<0.05), Physical Neglect (p<0.01), Emotional Neglect (p<0.01) and Sexual Abuse (p<0.05) subscales (Table 2).

Logistic regression analysis was performed in order to determine the effects of certain factors on the possibility of reporting bruxism-related problems. The model consisted of 5 independent variables including the CTQ, HAD-A, HAD-D, PSQI and gender. The model containing all predictors was found statistically significant, χ^2 (5, N = 200) = 40.81, p<0.001. These values demonstrate that the model could distinguish between those reporting that they had bruxism problem. The model, as a whole, could explain 18.2% (Cox and Snell R-square) to 24.3% (Nagelkerke R-square) of the bruxism-related variance and could accurately classify 67.5% of the participants. Of the model, the sensitivity was 65.0%, the specificity was 70.0%, the positive predictive value was 68.42%, and the negative predictive value was 73.68%. As shown in Table 3, only three of the independent variables made a statistically significant and exclusive contribution to the model (PSQI, HAD-D and CTQ). Depression was the strongest predictor of reporting bruxism problem, and the odds ratio of this problem was 1.20. When all factors in the model were kept under control, the participants with depression were 20.5% more likely to report bruxism compared to those without depression. The PSQI score was the second strongest predictor of reporting bruxism problem, and the odds ratio of this problem was 1.15. When all factors in the model were

Table 2. Comparison of the HAD-A, HAD-D, SF-36, PSQI, CTQ scores of the bruxism and control groups

		Bruxism Mean \pm Sd	Control Mean \pm Sd	t	p
HAS-A		7.90 \pm 3.51	6.78 \pm 2.68	2.539	<0.05
HAS-D		6.80 \pm 4.33	4.34 \pm 2.65	4.890	<0.01
PSQI		7.84 \pm 2.84	5.98 \pm 3.93	3.839	<0.01
SF-36	Physical functioning	22.59 \pm 7.98	25.79 \pm 5.03	-3.392	<0.05
	Role Physical	6.35 \pm 1.24	7.14 \pm 5.24	-1.468	>0.05
	Bodily Pain	7.58 \pm 2.28	9.10 \pm 3.95	-2.075	>0.05
	General Health	14.26 \pm 3.44	15.19 \pm 5.39	-1.184	>0.05
	Vitality	14.09 \pm 3.03	14.86 \pm 4.30	-1.463	>0.05
	Social Functioning	7.20 \pm 1.78	7.84 \pm 1.89	-2.465	<0.05
	Role Emotional	4.80 \pm 1.33	5.01 \pm 1.38	-1.097	>0.05
	Mental Health	17.68 \pm 4.31	19.69 \pm 4.74	-3.136	<0.05
CTQ		73.93 \pm 10.31	69.67 \pm 16.06	2.232	<0.05

Independent Student's t-test, Sd: Standard Deviation; HAS-A: Hospital Anxiety and Depression Scale-Anxiety; HAS-D: Hospital Anxiety and Depression Scale -Depression; SF-36: Short Form-36 Quality of Life Scale; PSQI: Pittsburgh Sleep Quality Index; CTQ: Childhood Trauma Questionnaire, p<0.05

Table 3. Lojistik regresyon analiz sonuçları

	B	Standart Error	Wald	df	p	Odds Ratio	95% confidence interval	
CTQ	0.031	0.012	6.360	1	0.012	1.032	1.007	1.057
Gender	0.109	0.321	0.116	1	0.734	1.115	0.595	2.093
HAS-A	0.034	0.058	0.352	1	0.553	1.035	0.924	1.158
HAS-D	0.187	0.054	11.937	1	0.001	1.205	1.084	1.340
PSQI	0.139	0.046	8.951	1	0.003	1.149	1.049	1.258
Constant	-4.545	1.108	16.82	1	0.000	0.011	0.638	1.112

HAS-A: Hospital Anxiety and Depression Scale-Anxiety; HAS-D: Hospital Anxiety and Depression Scale -Depression; PSQI: Pittsburgh Sleep Quality Index; CTQ: Childhood Trauma Questionnaire, $p<0.05$

kept under control, the participants with high PSQI scores were 14.9% more likely to report bruxism compared to those without sleep-related problems (Table 3).

DISCUSSION

In this study, individuals diagnosed with bruxism were compared with the control group in terms of sociodemographic characteristics, psychiatric symptoms and traumatic childhood experiences. According to the results of our study, anxiety, depression and childhood trauma questionnaire scores were higher in the bruxism group compared to the control group. Also, the bruxism group had poorer quality of life and sleep quality. High depression scale scores, poor sleep quality and traumatic childhood experiences increase the risk of bruxism.

According to the results of our study, bruxism is more common in females compared to males. In terms of gender differences, some studies are consistent with our study, while others yield different results (25,26). The reason for these differences may be the low sample size or cultural factors. The cases included in our study were between the ages of 19-52 years, which is consistent with the findings of Reding et al. that bruxism is most common in the 20-40 age range (27). The educational status of the case group was found to be lower compared to the control group. Previous studies have shown that the educational status is higher in individuals with bruxism (28). This difference may be due to cultural reasons or our selection of the healthy control group only among those undergoing periodic dental examinations.

Psychological problems have been shown to be more common in individuals with bruxism compared to healthy individuals (10). In our study, psychiatric symptoms were generally higher in the bruxism group.

Individuals with bruxism did not agree to undergo psychiatric examination, both because of the distance between the oral and dental health center where the study was carried out and the hospital, and because of the fear of stigmatization. Therefore, we could not evaluate whether there were additional psychiatric disorders in individuals diagnosed with bruxism. We used the HAD-A and HAD-D scales, whose Turkish validity and reliability were demonstrated, and which were used in many national and international studies, in the measurement of depression and anxiety levels. In our study, higher anxiety and depression scores in those diagnosed with bruxism are consistent with the literature (8). Patients with the complaint of bruxism are reported to experience somatoform disorder, hypochondriasis, and atypical depression as well being more aggressive, anxious, hyperactive and exhibiting self-punitive behaviors when faced with frustration (29,30). Although the etiology of bruxism is not precisely known, we think that psychiatric processes may be important in its etiology due to the relationship of bruxism with depression and anxiety, the findings of our study and that psychiatric drugs have been shown to be effective in the treatment process.

In our study, it was found that the mean score of the Childhood Trauma Questionnaire was statistically significantly higher in the bruxism group compared to the control group and predicted bruxism. We could reach a single study evaluating bruxism with childhood traumas. Şahpolat et al. reported that there was no difference between the bruxism and control groups in terms of childhood traumas in their study (31). This contradiction may be due to the fact that the sample size was low, and the case and control groups were not selected from the same population in the other study. In our study, we also performed regression analysis and showed that childhood traumas predicted bruxism. Considering that psychiatric diagnoses are high in adults with traumatic experiences, we believe that traumatic experiences have a place in the etiology of bruxism and that traumatic childhood experiences should be carefully evaluated during the examination and treatment processes.

In general, quality of life is a concept that reflects personal responses to diseases affecting the level of personal satisfaction that can be achieved in daily living conditions and to the physical, mental and social effects of life (32). In bruxism, pain in the jaw and facial region that occurs during the day due to the severe tension of the temporal muscle adversely affects the quality of life of patients (33). In our study, a significant difference was observed in terms of physical functioning ($p<0.01$), bodily pain ($p<0.05$), social functioning ($p<0.05$) and mental health ($p<0.01$) scores of the quality of life subscales. Our findings are consistent with the literature.

While the rate of poor sleep quality was found to be 69.9% in students who had bruxism and at least one psychological symptom, the rate of poor sleep quality was found to be 31.5% in students who did not have bruxism but had at least one psychological symptom (34). According to this result, bruxism has a negative effect on sleep quality. Poor sleep quality was found to be significantly higher in bruxism cases compared to the control group. Serra Negra et al. (16) found that poor sleep quality was a very important factor in students with diurnal and nocturnal bruxism in their study among dental students in Brazil in 2014.

To the best of our knowledge, our study is the first study showing that childhood traumas are more frequently observed in individuals with bruxism, and that depression score, sleep quality and traumatic childhood experiences are the predictive factors for bruxism. Therefore, considering that the etiology of bruxism is still not fully revealed despite numerous studies, we think that our study can contribute to the literature and be useful for clinicians of psychiatry, dentistry and family medicine as well as clinicians of sleep medicine.

Our study has some limitations. Firstly, the sample group consisted of individuals from only one center. Secondly, the educational status differed between the two groups. Thirdly, we could not perform psychiatric diagnostic evaluation. Thus, we do not know whether there were any comorbid psychiatric disorders in individuals with bruxism and the rate of these disorders, if any. We determined the anxiety and depression levels only with the scale scores. Since we did not perform psychiatric

evaluation, we were not able to make a diagnosis based only on the scores obtained from the scales. Another limitation was the low number of individuals in the case and control groups of our study. However, this limitation may not be very critical, since our case and control groups consisted of 100 individuals each, while it was sufficient for the case and control groups to consist of 91 people in order to ensure $\alpha=0.05$, $\beta=0.02$ and effect size of 0.6. It is thought that more precise data can be obtained by further studies with larger sample groups.

In conclusion, we examined some psychosocial characteristics thought to may have a place in the etiology of bruxism in our study. There was a statistically significant difference between the cases diagnosed with bruxism and the control group in terms of depression scale, anxiety scale, sleep quality, quality of life and traumatic childhood experiences; however, no significant difference was observed between the two groups in terms of sociodemographic data except for the educational status. In addition, it was found that traumatic childhood experiences, depression and sleep quality could predict bruxism. We think that our study may be of importance, since it is the first study showing that childhood traumas are more frequently observed in individuals with bruxism, and that childhood traumas, depression and sleep quality are the predictors of bruxism. In the light of these data, paying attention to the mental state of individuals diagnosed with bruxism in the treatment process and incorporating psychiatrists into this process may increase the success rate of the treatment.

Ethics Committee Approval: Prior to the study, approval was obtained from the Kafkas University School of Medicine Ethics Committee.

Informed Consent: Participants were firstly explained the purpose and method of the study, and verbal and written consent was obtained from those who agreed to participate.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept- İY, YT, YK; Design- İY, YT, YK; Supervision- İY, YT, YK; Resource- İY, YT, YK; Materials- İY, YT, YK; Data Collection and/or Processing- İY, YT, YK; Analysis and/or Interpretation- İY, YT, YK; Literature Search- İY, YT, YK; Writing- ; Critical Reviews- İY, YT, YK.

Conflict of Interest: There is no conflict of interest related to this article.

Financial Disclosure: No financial support has been received in the preparation of this article.

REFERENCES

- Clark GT, Ram S. Four oral motor disorders: bruxism, dystonia, dyskinesia and drug-induced dystonic extrapyramidal reactions. *Dent Clin North Am* 2007;51:225–243. [CrossRef]
- Raphael KG, Santiago V, Lobbezoo F. Is bruxism a disorder or a behavior? Rethinking the international consensus on defining and grading of bruxism. *J Oral Rehabil* 2016;43:791–798. [CrossRef]
- Manfredini D, De Laat A, Winocur E, Ahlberg J. Why not stop looking at bruxism as a black/white condition? Aetiology could be unrelated to clinical consequences. *J Oral Rehabil* 2016;43:799–801. [CrossRef]
- Raphael KG, Santiago V, Lobbezoo F. Bruxism is a continuously distributed behavior, but disorder 5. decisions are dichotomous (Response to letter by Manfredini, De Laat, Winocur & Ahlberg (2016)). *J Oral Rehabil* 2016;43:802–803. [CrossRef]
- Lobbezoo F, Ahlberg J, Raphael KG, Wetselaar P, Glaros AG, Kato T, Santiago V, Winocur E, Laat AD, Leeuw RD, Koyano K, Lavigne GJ, Svensson P, Manfredini D. International consensus on the assessment of bruxism: Report of a work in progress. *J Oral Rehabil* 2018;45:837–844. [CrossRef]
- Kato T, Dal-Fabbro C, Lavigne GJ. Current knowledge on awake and sleep bruxism: overview. *Alpha Omegan* 2003;96:24–32.
- Dawson PE. Evaluation, Diagnosis, Treatment of Occlusal Problems. C.V. Mosby, St. Louis, 1989.
- Manfredini D, Ciapparelli A, Dell'Osso L, Bosco M. Mood disorders in subjects with bruxing behavior. *J Dent* 2005;33:485–490. [CrossRef]
- Kılıçoğlu A, Pekkan G. Diş Kliniğine Başvuran Hastalarda Bruksizmi Olan ve Olmayanların Depresyon ve Anksiyete Açısından Karşılaştırılması. *Klinik Psikiyatri* 2009;12:68–71. [CrossRef]
- Pingitore G, Chrobak V, Petrie J. The social and psychologic factors of bruxism. *J Prosthet Dent* 1991;65:443–446. [CrossRef]
- Glaros AG, Tabacchi KN, Glass EG. Effect of parafunctional clenching on TMD pain. *J Orofac Pain* 1998;12:145–152.
- Svensson P, Jadidi F, Arima T, Baad-Hansen L, Sessle BJ. Relationship between craniofacial pain and bruxism. *J Oral Rehabil* 2008;35:524–547. [CrossRef]
- Taner Y, Gökler B. Çocuk istismarı ve ihmali: Psikiyatrik yönleri. *Hacettepe Tıp Derg* 2004;35:82–86.
- Brown RJ, Schrag A, Trimble MR. Dissociation, childhood interpersonal trauma, and family functioning in patients with somatization disorder. *Am J Psychiatry* 2005;162:899–905. [CrossRef]
- Bader G, Lavigne G. Sleep bruxism; an overview of an oromandibular sleep movement disorder. *Sleep Med Rev* 2000;4:27–43. [CrossRef]
- Serra Negra JM, Scarpelli AC, Tirsá Costa D, Guimaraes FH, Pordeus IA, Paiva SM. Sleep bruxism, awake bruxism and sleep quality among Brazilian dental students: a cross-sectional study. *Braz Dent J* 2014;25:241–247. [CrossRef]
- Zigmond AS, Snaith PR. The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand* 1983;67:361–370. [CrossRef]
- Aydemir Ö. Hastane Anksiyete ve Depresyon Ölçeği Türkçe formunun geçerlilik ve Güvenilirliği. *Türk Psikiyatri Derg* 1997;8:280–287.
- Buyse DJ, Reynolds CF, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality Index (PSQI): A New Instrument For Psychiatric Research and Practice. *Psychiatry Res* 1989;28:193–213. [CrossRef]
- Ağarün MY, Kara H, Anlar Ö. Pittsburgh Uyku Kalitesi İndeksi'nin Geçerliliği ve Güvenilirliği. *Türk Psikiyatri Derg* 1996;7:107–115.
- Bernstein DP, Fink L, Handelsman L, Foote J, Lovejoy M, Wenzel K, Sapareto E, Ruggiero J. Initial reliability and validity of a new retrospective measure of child abuse and neglect. *Am J Psychiatry* 1994;151:1132–1136. [CrossRef]
- Şar V, Öztürk E, İkikardeş E. Çocukluk Çağı Ruhsal Travma Ölçeğinin Türkçe uyarlamasının geçerlilik ve güvenilirliği. *Türkiye Klinikleri J Med Sci* 2012;32:1054–1063. [CrossRef]
- Ware JE, Sherbourne CD. The MOS 36-item Short Form Health Survey (SF-36). 1. Conceptual frame work and item selection. *Med Care* 1992;30:473–483. [CrossRef]
- Koçyigit H, Aydemir O, Fişek G, Memiş A. Turkish validity and reliability of Short-form 36. *Drug Treat* 1999;12:102–106.
- Melis M, Abou-Atme YS. Prevalence of bruxism awareness in a Sardinian population. *Cranio* 2003;21:144–151. [CrossRef]
- Ciancaglini R, Gherlone EF, Radaelli G. The relationship of bruxism with craniofacial pain and symptoms from the masticatory system in the adult population. *J Oral Rehabil* 2001;28:842–848. [CrossRef]
- Reding GR, Rubright WC, Zimmerman SO. Incidence of bruxism. *J Dent Res* 1966;45:1198–1204. [CrossRef]
- Ahlberg J, Rantala M, Savolainen A, Suvinen T, Nissinen M, Sarna S, Lindholm H, Kononen M. Reported bruxism and stress experience. *Community Dent Oral Epidemiol* 2002;30:405–408. [CrossRef]
- Clark GT, Beemsterboer PL, Rugh JD. Nocturnal masseter muscle activity and the symptoms of masticatory dysfunction. *J Oral Rehabil* 1981;8:279–286. [CrossRef]
- Özen NE. Temporomandibuler Bozuklukların Psikiyatrik Yönü ve Bruksizm. *Klinik Psikiyatri* 2007;10:148–156. [CrossRef]
- Şahpolat M, Adıgüzel M, Arı M. Bruksizimli Hastalarda Ruhsal Travma ve Bedensel Belirtilere Odaklanma. *Med J Bakirkoy* 2018;14:283–288. [CrossRef]
- Ziller RC. Self-other orientations and quality of life. *Social Indicators Research* 1975;1:301–327. [CrossRef]
- Dao TT, Lund JP, Lavigne GJ. Comparison of pain and quality of life in bruxers and patient with myofascial pain of the masticatory muscles. *J Orofac Pain* 1994;8:350–356.
- İşcan İ. Bruksizm olan bireylerde uyku kalitesi ve psikolojik durum değerlendirmesi. *Doktora Tezi, İstanbul*; 2015.